On Rob Kling: The Theoretical, the Methodological, and the Critical

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Abstract. We explore Rob Kling's conceptual scaffolding for Social Informatics: his integration of theory, method and evidence and philosophical underpinnings and moral basis of his commitment to a critical stance towards computers and social life. He extended his focus on organizational practices and a lifelong meditation on democracy, value conflicts and social choices to the discourses of computerization and social transformation and to the education of the information professional. He came to his project through careful observation of organizational life and a critical reading of research conducted by other scholars and the rhetoric about ICTs, As Kling conceptualized it, the project of Social Informatics was to intervene in the social construction of the meaning, value, use and even design of technologies as shaped by discourse and education.

Keywords: Rob Kling, Social Informatics, intellectual trajectory, theory, social critique

1 Introduction

Rob Kling is lovingly remembered by colleagues and friends around the world.[1] He is described with a host of adjectives that include: engaged, lively, enthusiastic, energetic, charismatic, intellectually curious and playful, open to ideas and criticism, socially aware, and politically committed. Kling was not the first to assign the name "Social Informatics" to what has evolved to become a legitimate domain of study.[2] He was, however, its central figure, promoter and proselytizer, a "scholar on a mission." He was a major scholar and contributor to the conceptual scaffolding of Social Informatics through sustained inquiry and a very public record of his work. His scholarly contributions have been cited in a wide array of fields.[3]

His observations of the empirical world led to research questions that crossed disciplinary boundaries and invigorated disciplines, transformed our thinking, and helped us develop a working vocabulary about technology and social life. His extensive, worldwide social network of colleagues and students and enduring relationships with trusted assessors were responsible for creating a community of scholars committed to Social Informatics [Cronin & Shaw, 2005]. It is for all these reasons that this international conference recognizes him as a tireless institution builder.

We explore Kling's conceptual scaffolding: how he integrated theory, method and evidence and the philosophical underpinnings and moral basis of his commitment to a critical stance towards computers and social life.[4] Our analysis relies on a close reading of his most highly cited works and other papers that extended his study of organizational practices and his lifelong meditation on value conflicts and social choices to the discourses of computerization and social transformation and to the education of the information professional. We note that Kling used "technology" to refer to computers and information technology, which "morphed" at the end of his career into "information and communication technologies" (ICTs); thus, we use the terms interchangeably throughout our discussion.

The ideas that guided him, his sensibilities about the problem space, and his theoretical position were clearly articulated at the beginning of his career and continued well into the 1990s and early 21st century. He attended to macro- and micro-levels of analysis and core sociological concepts of context, social situation, embeddedness, identity, role, and authority (power). He considered the influence of history on thought and action and the dynamics, contingencies, fluidity, and uncertainty of the outcomes of social relations. He understood that the relationship between technology and social life was problematic and a complex, contingent process. This relationship was mediated by history, context, structure and agency, culture and meaning systems, symbolic and material interests and resources, and political and social processes. His approach subsumed the analytical approaches of "social shaping of technology" and "social construction of technology" under the more general arena of study that he called "Social Informatics.

Kling's intensive exploration into scholarly work on organizational life and information systems was fruitfully married with his training as a computer scientist. He had an intimate knowledge of the logic of computer systems and the social world of computer scientists and management information systems professionals. His training also contributed to conceptualizing problems in terms of causal structures (as in the relationship between social forces and the effects of computerization). His awareness of the language systems employed by practitioners contributed to his later writings on the use of metaphors as constitutive of the language of public policy and social action.

He translated questions about "how we know the world" into questions of research design. He critiqued quantitative and qualitative methods used to study information systems design and called for improved methodological rigor in the study of computerization in organizations [see Kling, 1987, 1991a, 1992b].

Humanistic and moral concerns contributed to his investigations of the problematics of the social and the technical. The notion of "the critical" emerged very early in his work as the analysis of the disjunctions between popular and professional claims about the social values and uses of ICTs and their empirical reality. The "critical" was given prominence in the 1990s with his writings on professional education which argued that "critical" analysis was the foundation of Social Informatics [Kling 2003].

2 Theory, Method, and Evidence

Kling came to his project of Social Informatics through two sources: a critical reading of research on computerization conducted by other scholars and his own careful observations about how computers were introduced into organizations. His thinking was also influenced by what he deemed inflationary rhetoric about the social use and meaning of ICTs and their actual performance. The research conducted by other investigators provided Kling with ammunition for his own argument: that actual outcomes of computerized information systems implementation differed significantly from what their theories argued. In addition, his own empirical research sensitized him to the underlying premises of the theoretical approaches of other scholars and to the speculative rhetoric that he later criticized.

The central premises of his life-long critique of the consequences of computerization for organizational and social life may be summarized in the following way: He believed that rational actor theory (public choice, economic rationality, systems rationalist) dominated the study of organizational practices, computer technology, politics and public policy. The control, efficiency, and productivity features of management dominated the study of technology-in-organizations. These approaches constituted a highly prescriptive or normative form of theorizing that exuded a certainty about the consequences, outcomes, and benefits of computerization. These approaches to modeling technology adoption suggested that technology shaped organizational practices in a deterministic and unidirectional causal direction.

Kling concluded that the theoretical claims made by these dominant approaches were not supported with adequate empirical evidence and were "based on a highly simplified conception of computing and social life" [Kling & Scacchi 1982, p. 2]. He contended that their claims to universality were unfounded and their analytical explanatory power was limited and, thus, inadequate for the task of understanding the dynamics of the social context of computing [Kling 1976, 1978c, 1980a; Kling & Scacchi 1980]. Contingency and complexity were, instead, key to understanding the adoption and use of computer technology in organizations. Kling [1974] was also convinced that politics were part of social life and computerization; technology had consequences for the polity and for the individual.

However, it is important to emphasize that Kling never rejected outright the dominant models and theoretical perspectives; he criticized them because they inadequately explained socially complex technologies. His evaluation of the limitations of their conceptions of computing and social life was motivated by a

desire to find good explanation for the empirical evidence he had accumulated through his own research investigations. When these theoretical approaches offered explanatory power, he used them, incorporating multiple social and political theories and methods from a variety of scholarly literatures to inform his own investigations.

He extracted concepts and a working vocabulary from theories he came in contact with to construct a better explanation of computerization in organizations and social life. His strategy linked theory and evidence through methodologies that depended on close observation to understand the social world of the organizational actor. He applied various forms of interpretive epistemology and associated methodologies to study organizational practices. Political theory was employed to find explanations for the social order that he observed inside organizations and the polis. Values, power, ideology, domination, legitimacy, authority, and influence relations and their consequences for both the bureaucracy and the policy process were at the heart of Kling's analysis of organizational and political life.

Symbolic interactionism, for its attention to micro-processes of the social order and its associated concepts, metaphors and methods, was the "orienting strategy" [Berger, Willer, & Zelditch, 2005] that exerted the greatest influence on Kling's thinking about the relationship between social and technical systems. Its theoretical lens offered a way to understand the social structure of the computing world in interactional context and as a web of relationships. It also provided a language for decoding the consequences and impacts of computerization on organizational practices and the polity and the symbol and meaning systems that shaped interpretative action. Organizational life was a negotiated social order of both conflict and cooperation, structurally complex, contingent, ambiguous, ritualistic, and symbolic. The individual was a reflexive social actor with "interests" who acted strategically. This approach, particularly with its emphasis on emergent and dynamic properties of the social order, also helped Kling recognize the historical aspects of the dynamic processes of computerization in organizations [see Kling & Iacono, 1989]. The ideas of Blumer, Goffman, Becker, and Berger and Luckmann infuse his writings [see Kling, 1980a; Kling & Gerson, 1977, 1978; Kling & Scacchi, 1982; Iacono & Kling, 2001/1998; Kling & Iacono, 1988, 1995; Kling & Courtright, 2004; Lamb & Kling, 2003].

Symbolic interactionism's approach provided Kling with three evocative metaphors as a way to examine the social context of computerization: technology as a "package" (as in "a socio-technical package") of a "complex array of commitments," a "production lattice," and "web models" (as in a "web of computing"). Through the next decades until his death these metaphors remained central to his analysis [see Kling, 1980a; Kling & Scacchi, 1979, 1980, 1982; Kling & Dutton, 1982; Kling & Iacono, 1989; Kling & McKim, 2000]. The web of computing and package metaphors evolved towards the end of his career into the "characterization of ICTs as 'socio-technical interaction networks' (STINs)—not tools or objects that could be analyzed separately from their users, but which 'co-constituted each other' and required that 'both technologies and users be analyzed integrally'" [Robbin, Courtright, & Davis, 2004, p. 415, citing Kling, 2000a, 2000b].

Kling's affinity for the symbolic interactionist conception of social life also led him to move easily from theorizing about organizational practices as dynamic and

emergent processes to a theoretical approach whose central premise was the organization as an organic and open system and institutions as symbol systems [Kling, 1992a; Kling & Jewett, 1994; Kling & Iacono, 1988, 1995; Covi & Kling, 1996; Iacono & Kling, 2001/1998]. And the institution as symbol system, coupled with the concepts of structure and agency, led Kling naturally to work by sociologists of what would later be conceptualized as the "new institutionalism" [Kling & Jewett, 1994; Lamb & Kling, 2003; Lamb, King, & Kling, 2003].

Symbolic interactionism also provided Kling with the theoretical grounding and a sociological explanation for his two other long-standing preoccupations regarding the dynamics of macro-level processes and consequences of computerization for collective action: the political discourse about computerization at the societal level and political life as manifested in public policy and politics. The public discourse of social movements, to which symbolic interactionists had devoted decades of study, reinforced his interest in the competing narratives and discursive repertoires about computerization. Kling reframed their research in collective behavior, specifically the study of the interactional processes of groups as social movements, ideology, conflict, and the social construction of public problems, as "computerization movements."

The adoption of the theoretical lenses of conflict, ideology and frame construction gave Kling the necessary theoretical tools to make explicit the linkages between micro- and macro-level processes as they related to technology adoption; and to clarify the utopian and dystopian stances that advocated for and against computerization. Computerization implied change, change implied conflict, and conflict was endemic to social transformation [Kling & Scacchi, 1979]. Power and ideology, which Kling conceptualized as a "computing world view," were linked, and computing developments were identified as a political process where key actors built support and quieted opposition [Kling & Iacono, 1984]. His quasi-linguistic studies on the genres of "computerization" applied concepts from the theories of ideology and frame construction to the analysis of the rhetoric of computerization and the rhetorical devices employed by the various interests which he labeled "utopian and dystopian stories" [Kling, 1994, 1996; Iacono & Kling, 2001; Kling & Iacono, 1988].

3 The Critical

Symbolic interactionists' interests originated from an action-oriented sociology committed to creating a more just and equal society and from their theoretical interest in the social aspects of the political processes of protest, resistance, mobilization and action. Philosophically, their commitments resonated with Kling's own philosophical tendencies, humanistic impulses, and public policy interests [Kling, 1973, 1974, 1978a, 1978b, 1978d, 1978e, 1980b, 1986, 1990, 1991b; Kling & Star, 1998; Iacono & Kling, 1987; Teich, Frankel, Kling, & Lee, 1999]. His theoretical and political sensibilities and empirical investigations aligned in the early 1970s with an emerging culture of concern by computer professionals with social values and uses of computers. Their critique made visible the contradictions between popular and professional claims about the social values and uses of ICTs and their empirical reality. Their critique also exposed what Kling [1992a, p. 351] called the

"radical dimension" to "working in this terrain [of practical computerization efforts]": The analyst who questioned the "arguments and structures that legitimated social domination, who raised the critical questions "in these practical domains sometimes [came] in conflict with powerful organized interests."

Over the next decades Kling would write extensively on the consequences of public policies on computerization for democracy, consequences that raised questions of social choices and whose choices always engaged value conflicts. His wide-ranging policy critique included a continuing concern about the loss of personal privacy and the development of mass surveillance systems. He analyzed the consequences of electronic funds transfer systems. He had a long-standing interest in the quality of school preparation for the digital age, including issues of enfranchisement and the digital divide. He wrote on the quality of work life in an information society and the effects of restructuring labor markets for information work and growing social stratification. His participation in a variety of national public policy assessments undertaken by professional associations and the National Academy of Sciences led him to considerations about the design of a national computing and information infrastructure, the role of the scholar in policy design and evaluation, intellectual property, censorship, information production and distribution, the nature of public decision making, and scholarly communication. His association with library and information science yielded provocative thinking about the role of the library in society. His sensitivity to language contributed to his writings on the abuses of anonymous communication on the Internet. In all these matters his critique was both humanistic and moral.

Based on his empirical investigations into organizational life and his analyses of popular and professional claims about the social values and uses of ICTs, Kling concluded that computer professionals were inclined to believe the most utopian (or equally dystopian) narratives about the social values and uses of computers. Not only were these claims "uncritical" statements and narratives divorced from "empirical" reality, he contended, but "many of [their] visions delete[d] people and social order in important ways." To what extent, he asked, could "computer-based technologies play key roles in restructuring major social relationships— interpersonal, intergroup, and institutional" [Kling, 1991b, p. 344].

As Kling conceptualized it, the project of Social Informatics was to intervene in the social construction of the meaning, value, use and even design of technologies as shaped by discourse and education [Kling, 1994, 2003]. The purpose of Social Informatics was not to continue the prescriptive and speculative practices of the computer industry, professional education, and "social life" in regard to their evaluations of ICTs and social life and professional activity. The purpose was to *intervene* in the practice of theory of ICTs by means of critical examination and discourse.

Intervention required changing professional education and professional norms [Kling, 2003]. To accomplish these goals, professional computer-related education needed to be improved by infusing Social Informatics in professional programs of study, so that students would not just be trained. Computer (information) professionals needed to understand how people were affected by various computer systems. They needed to be engaged in the development of policy models to "ensure

computing arrangements which [would] better serve the public" [Kling, 1980b, p. 166]; and the design of human-centered systems [Kling, 1973, 1978b; Kling & Star, 1998]. Computer (information) professionals needed more than a technical education directed to problem solving and that "identified mathematics as the only legitimate kind of theoretical orientation" [Kling, 2003, p. 408]. Students required a critical education that intervened in the narrative and institutional constructions of reality and that included critically reflective conceptual, historical, and interpretive analyses in computer science and research.

A critical orientation would reflectively question the value and meaning of discourse and other activities in an interventionist manner. Students would learn how to analyze ICTs from perspectives that did not automatically and uncritically accept the goals and beliefs of groups that had commissioned, designed, or implemented specific IT applications. Research approaches and methods would go beyond the quantitative and mathematical to embrace those used in the qualitative, conceptual, social sciences and, particularly, the humanities. They would learn appropriate methods of conceptualizing, reflecting on, and analyzing the possibilities and limits of computer technologies in institutional and other social settings.

4 Concluding Remarks

The area of research that defines all of Kling's work is the relation of information and communication technologies with social life and with professional education, in particular, the professional education of computer scientists and, later for Kling, "information professionals." He argued for an analytical and empirical approach to the study of society and computerization. He connected empirical evidence to an eclectic variety of modern social and political theory to address the problematics of information and computer technologies (ICTs) in organizations and the polity. This emphasis placed on "empirical" methods and "problem-driven" analyses in social informatics dominates its legacy today.

Kling also employed interpretive methods of analysis that were argumentative and based in conceptual analysis, textual analysis and sometimes historical analysis. Emergence and contingency were foundational principles for him, and called for a multi-method strategy for understanding these processes.

He adopted a critical stance towards ICTs that is not traditionally associated with the empiricist approach. Indeed, his notions of method and the "empirical" in Social Informatics may be more broadly than generally realized as belonging to Social Informatics. The implications of developing a cultural, "critical" analysis (per historical and conceptual methods) are explored, *pace* Kling [2003] in the areas of professional education and social life.

We can view his critiques as interventions designed to destroy false illusions embedded in prescriptive education, research, and the ideologies of ICT use in social life. His critiques challenged what we are doing and why. He advocated for professional social responsibility, and his later paper on professional education implicitly argued that "critical analysis" is the foundation for Social Informatics.

In one form or another his writings focused on various elements of the normative implications of computerization, the roles and responsibilities of the public and private sectors and professions, and public policy design and its

consequences for social life, work life, and the citizen. He articulated a responsibility-centered role for information professionals, which flowed from his convictions about the ethical self. He contended that technology was not (politically) neutral and went far beyond the technical: it had consequences for the polity, society, organizational life and individuals, and it was implicated in social change and transformation. “These issues,” he wrote,

> concern the ways and means that computer technology can help foster a mature and humane society. They involve judgments of social value as well as technical comparisons. As a beginning we must understand how computer technology can be used to enhance (or diminish) the humaneness of the people who are affected by various computer systems [1973, p. 387].

Thus, information professionals needed to carefully consider elements of power and influence, resources available to and employed by various interests, and the consequences of their personal decisions and of public policies. And they needed to apply what Kling [1974] called “person-centered standards” for the design of computerized information systems that promoted “a sense of personal competence and authority” (p. 6).

If we are to read Kling’s work seriously—what he always challenged us to do, that is, in non-hagiographic fashion, we must confront the inherent epistemological tensions of causal assumptions and interpretive analysis in his corpus of work. By suggesting that the causal relation of “society” and computers/IT/ICTs constituted the central issue for Social Informatics, he risked reifying the notion of the social as a causal agent and did the same for a category of technological objects (“computers,” “IT,” “ICTs”). His work, we argue, demonstrates the impossibility of directly correlating technological materials to cultural expressions and social uses, and the difficulty of constructing direct, efficient, causal relations between “technology” and “society.”

All the same, we recognize that he passed away before developing a robust and coherent theoretical framework to explain the relations that he studied. We must also acknowledge what his corpus of work did *not* examine as a central concern of Social Informatics: information (and communication) as a culturally and historically specific form of knowledge. We need to recognize, as well, that the cornerstone of Social Informatics, *the critical*, remains undeveloped. Indeed, Kling recognized these gaps in the conceptual frameworks that had grounded Social Informatics in the previous decades. Shortly before he died he wrote an outline for a book directed at scholars and students who were interested in technology and social change. His commitments to history, conceptual analysis, interpretive analysis, and the critical are to be found in this book prospectus.

Although this book was, alas, never completed, Kling’s oeuvre provides us with the intellectual scaffolding for Social Informatics. He urges us to be theoretically informed, empirically grounded, and historically oriented. We need to develop good theory and good evidence if we are to achieve a more complete understanding of the relation of technology and social life. Social Informatics can and should engage other approaches and disciplines. We can recognize that future investigations in Social Informatics will benefit in their greater historical engagements, their richer conceptual analyses, and their less ambiguous commitments to strictly interpretative

and conceptual analyses. We can examine techniques and technologies in their production of "information." And we are encouraged to follow some of the paths suggested by critical cultural research. This is his legacy.

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[1] See "Dr. Rob Kling Remembered" at the Indiana University School of Library and Information Science web page: http://rkcsi.indiana.edu/article.php/about-rob-kling/28. A memorial service was held for him in October 2003 [http://vw.indiana.edu/talks04/kling.php]. For some of the remembrances see also:

Haigh [2003]; volume 19, number 3 (2003) and volume 20, number 2 (2004) of *The Information Society*; Cronin [2004]; volume 19, number 1 of *Information Technology and People* (2005); volume 12 of *Communications of the Association of Information Systems* (2003); and the National Science Foundation-supported "Social Informatics Workshop" held at CRITO, University of California at Irvine, March 11-12, 2005, available at http://www.crito.uci.edu/si/

[2] To this we owe our thanks to the Norwegian sociologist Stein Bråten whom Rob visited in Oslo in the early 1980s. Personal communication from Ingar Roggen, October 17, 1995. See also Dutton's [2005] remarks about discussions he had with Kling in the early 1980s.

[3] Although there are known problems with ISI's "Web of Science" coverage, a search conducted in mid-December 2005, of Kling's cited works reveals just how extensive his influence was. He was cited by authors who reside in 35 countries. The subject categories include, in addition to the majority of articles classified as "library science and information science," 9 different or related subfields of computer science; 20 fields or subfields in the social sciences; ethics; 3 subfields of business/management; 5 subfields of engineering; 4 fields or subfields of health; philosophy and history of science, and law.

[4] This paper draws on ideas first developed in Day [2005a, 2005b], Robbin [2005], and Robbin, Hara, & Day [2005].